



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IAP13 Rec'd PCT/PTO 19 SEP 2006

In re the Application of: Pauline Brenda Hardy and Garth Nesbitt

Filed: December 14, 2005

Examiner:

Serial No.:

Art Unit:

Title: Boat Latch

File: HAR101

I certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below.

9/13/06
Date: John E. Vandigriff, Reg. No. 22127

Hon. Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

On December 14, 2005, a patent application was mailed to the U.S. Patent Office by Express Mail. This is evidenced by the copy of the filing receipt No. HB222206699 US, a copy is enclosed. Also, tracking this mailing, the application was received by the USPTO on December 21, 2005 at 9:29 am, and was signed by S. Dyar. A copy of the Track & Confirm from the United States Postal Service is attached..

In a conversation with USPTO customer service, it was stated that there is no record of the receipt of the patent application. Based upon the above evidence, the application was received by the USPTO.

A copy of the original documents mailed to the USPTO are enclosed. Please enter this application and assign it the filing date of December 14, 2005.

A correspondence change of address is enclosed as the below attorney has changed address.

If additional information is required, please let me know.

Sincerely,

John E. Vandigriff

Reg: 22,127

Tel: 972-899-1942

[Home](#) | [Help](#) | [Sign In](#)[Track & Confirm](#)[FAQs](#)

Track & Confirm

Search Results

Label/Receipt Number: HB22 2206 699U S
Status: **Delivered**

Your item was delivered at 9:29 am on December 21, 2005 in ALEXANDRIA, VA 22313. The item was signed for by S DYAR.

Additional information for this item is stored in files offline.

Track & Confirm

Enter Label/Receipt Number.

[Go >](#)[Restore Offline Details >](#)[Return to USPS.com Home >](#)

Notification Options

Proof of Delivery

Verify who signed for your item by email, fax, or mail. [Go >](#)



POSTAL INSPECTORS
Preserving the Trust

[site map](#)[contact us](#)[government services](#)[jobs](#)[National & Premier Accounts](#)

Copyright © 1999-2004 USPS. All Rights Reserved. [Terms of Use](#) [Privacy Policy](#)

HD222206679 US

▲ Fold and Detach Stub Here ▲

Customer:

Please tear off this stub and keep it for reference when depositing prepaid Express Mail Next Day Service shipments in Express Mail collection boxes or when giving prepaid Express Mail Next Day Service shipments to Postal Service personnel. Affix the remaining label set to your shipment. DO NOT REMOVE THE CUSTOMER COPY. It will be completed and mailed back to you. For reference, write on this stub the date that the shipment was mailed and initial the stub (if deposited in an Express Mail collection box). Deadlines for deposit for next day delivery differ according to the destination. To ensure next day delivery consult your local Express Mail Directory.

PRIVACY ACT: Your name and address may be used by the Postal Service to send you updated information about Express Mail service. You may request removal of your name and address from our mailing list by writing Assistant Postmaster General, Marketing Department, USPS, Washington, DC 20260-6300. Authority: 39 U.S.C. 401, 403, 404.

Additional information on Express Mail Service can be obtained at any post office or by writing USPS Headquarters, Washington, DC 20260-6334.

12/14/05

FW

Date Mailed:

Initials:

Service Guarantee:

If this shipment is mailed at designated USPS Express Mail service facilities on or before the specified deposit time for overnight delivery to the addressee, it will be delivered to the addressee or agent before noon or 3:00 p.m. the next day. Upon application by the mailer, USPS will refund the postage for this shipment if it is not delivered before noon or 3:00 p.m. of the next day, unless delivery was attempted, but could not be made, or because this shipment was delayed by strike or work stoppage. Consult your local Express Mail directory for morning and afternoon delivery areas. See The Domestic Mail Manual, Chapter 2, for details. Signature of the addressee, addressee's agent, or delivery employee is required upon delivery. Express Mail International Service mailings are not covered by this service guarantee. See the International Mail Manual for details.

Insurance Coverage:

(See section 295 of the Domestic Mail Manual for exclusions of coverage, such as negotiable items and consequential loss.)

(1) *Merchandise Insurance.* Merchandise is insured against loss, damage or rifling up to a maximum of \$500. Indemnity will not be paid for spoilage of perishable items.

(2) *Document Reconstruction Insurance.* Non-negotiable documents are insured against loss, damage or rifling up to \$50,000 per piece subject to a limit of \$500,000 per occurrence.

(3) The maximum indemnity payable for negotiable items, cash, currency, or bullion is \$15.

Claims:

- Claims for delay, loss, damage or rifling must be made within 90 days. Claim forms may be obtained and filed at any post office.
- The Customer Receipt must be presented when a claim is filed.

Label 11-B (April 1990)

EXPRESS MAIL NEXT DAY SERVICE®

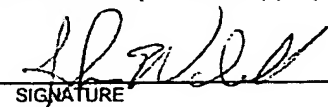
★ U.S.G.P.O. 1991-296-781

14023 U.S. PTO
091906

| | | |
|---|--|--|
| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER |
| INTERNATIONAL APPLICATION NO. AU 2004/900602 | | U.S. APPLICATION NO. (If known, see 37 CFR 1.5) |
| INTERNATIONAL FILING DATE February 10, 2004 | | PRIORITY DATE CLAIMED February 10, 2004 |
| TITLE OF INVENTION BOAT LATCH | | |
| APPLICANT(S) FOR DO/EO/US PAULINE HARDY AND GARTH NESBITT | | |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | |
| <p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input checked="" type="checkbox"/> The US has been elected (Article 31).</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> has been communicated by the International Bureau.</p> <p style="margin-left: 20px;">c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</p> <p>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> is attached hereto.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</p> <p>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> have been communicated by the International Bureau.</p> <p style="margin-left: 20px;">c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</p> <p style="margin-left: 20px;">d. <input type="checkbox"/> have not been made and will not be made.</p> <p>8. <input checked="" type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p> <p>Items 11 to 20 below concern document(s) or information included:</p> <p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input type="checkbox"/> A preliminary amendment.</p> <p>14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.</p> <p>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</p> <p>20. <input type="checkbox"/> Other items or information:</p> | | |

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| | | | | | |
|---|--------------|--|---------|--|--------------|
| U.S. APPLICATION NO. (if known, see 37 CFR 1.5) | | INTERNATIONAL APPLICATION NO. | | ATTORNEY'S DOCKET NUMBER | |
| The following fees have been submitted | | | | CALCULATIONS | PTO USE ONLY |
| 21. <input checked="" type="checkbox"/> Basic national fee..... \$300 | | | | \$ 300.00 | |
| 22. <input checked="" type="checkbox"/> Examination fee If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)..... \$100 All other situations..... \$200 | | | | \$ 200.00 | |
| 23. <input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared and provided to the Office..... \$400 All other situations..... \$500 | | | | \$ 500.00 | |
| TOTAL OF 21, 22 and 23 = | | | | \$ 1,000.00 | |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250 | \$ | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | - 20 = | | x \$ 50 | \$ | |
| Independent claims | - 3 = | | x \$200 | \$ | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$360 | \$ | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ | |
| <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/3. | | | | | |
| SUBTOTAL = | | | | \$ 700.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). | | | | \$ | |
| TOTAL NATIONAL FEE = | | | | \$ 1500.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.26, 3.31). \$40.00 per property | | | | \$ | |
| TOTAL FEES ENCLOSED = | | | | \$ | |
| | | | | Amount to be refunded: | \$ |
| | | | | Amount to be charged: | \$ 1500.00 |
| <p>a. <input checked="" type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> | | | | | |
| <p>NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.</p> | | | | | |
| SEND ALL CORRESPONDENCE TO: | | | | | |
| John E. Vandigriff HAMMERLE FINLEY LAW FIRM 1660 S. Stemmons, Suite 300 Lewisville, Texas 75067 | | | |  SIGNATURE John E. Vandigriff NAME 22,127 REGISTRATION NUMBER | |

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

CHANGE OF CORRESPONDENCE ADDRESS *Application*

Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

| | |
|------------------------|----------------------|
| Application Number | No Assigned |
| Filing Date | December 14, 2005 |
| First Named Inventor | Pauline Brenda Hardy |
| Art Unit | |
| Examiner Name | |
| Attorney Docket Number | HAR101 |

Please change the Correspondence Address for the above-identified patent application to:

☐ The address associated with
Customer Number:

OR

☒ Firm or
Individual Name John E. Vandigriff

Address

906 Stone Circle Ln

City
LewisvilleState
TexasZip
75056Country
U.S.A.Telephone
972-899-1942Email
johnvan@grandecom.net

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:

- ☐ Applicant/Inventor
- ☐ Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).
- ☒ Attorney or agent of record. Registration Number 22,127
- ☐ Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____

Signature

Typed or Printed
Name

John E. Vandigriff

Date
September 13, 2006Telephone
972-899-1942

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

ATTORNEY'S DOCKET NO.

BOAT. TM

APPLICATION FOR UNITED STATES PATENTDECLARATION AND POWER OF ATTORNEY

As a below named inventor, I declare that my residence, post office address and citizenship are as stated below next to my name; that I verily believe that I am the original, first and sole inventor if only one name is listed below, or an original, first and joint inventor if plural inventors are named below, of the subject matter which is claimed and for which a patent is sought on the invention entitled as set forth below, which is described in the attached specification; that I have reviewed and understand the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration; that no application for patent or inventor's certificate on this invention has been filed by me or my legal representatives or assigns in any country foreign to the United States of America; and that I acknowledge my duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, section 1.56(a);

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| | | |
|---|---|--|
| TITLE OF INVENTION: Boat Latch | | |
| POWER OF ATTORNEY: I HEREBY APPOINT THE FOLLOWING ATTORNEYS TO PROSECUTE THIS APPLICATION AND TRANSACT ALL BUSINESS IN THE PATENT AND TRADEMARK OFFICE CONNECTED THEREWITH John E. Vandigriff, Reg. No. 22,127 | | |
| SEND CORRESPONDENCE TO: John E. Vandigriff Hammerle Finley Law Firm 1660 S. Stemmons, Suite 300 Lewisville, Texas 75067 | | DIRECT TELEPHONE CALLS TO: (972) 436-9300 FAX (972) 436-9000 |
| NAME OF INVENTOR: (1) Pauline Brenda Hardy | NAME OF INVENTOR: (2) Garth nesbitt | NAME OF INVENTOR: (3) |
| RESIDENCE & POST OFFICE ADDRESS: 2 Sewarts Road Allendale East South Australia 5291 Australia | RESIDENCE & POST OFFICE ADDRESS: 2 Sewarts Road Allendale East South Australia 5291 Australia | RESIDENCE & POST OFFICE ADDRESS: |
| COUNTRY OF CITIZENSHIP: Australia | COUNTRY OF CITIZENSHIP: Australia | COUNTRY OF CITIZENSHIP: |
| SIGNATURE OF INVENTOR: <i>Pauline B Hardy</i> | SIGNATURE OF INVENTOR: <i>Garth Nesbitt</i> | SIGNATURE OF INVENTOR: |
| DATE: 17-11-05 | DATE: 17-11-05 | DATE: |

ORIGINAL

Complete Specification

Applicant: Garth Nesbitt and Pauline Brenda Hardy

Title: Boat Latch

Address for Service: LESICAR PERRIN, 49 Wright Street, Adelaide, South
Australia 5000, Australia

**The following statement is a full description of this invention, including the
best method of performing it known to me/us:**

Boat Latch

FIELD OF THE INVENTION

5 The present invention relates to a boat latch. The latch of the present invention is of assistance in the retrieval of boats onto a trailer.

BACKGROUND OF THE INVENTION

Boats carried on trailers are used for both recreational and commercial purposes in
10 significant numbers. Typically boats would be launched from and retrieved from an inclined boat-launching ramp or similar. The boat is secured to the trailer by a latch attaching to the bow of the boat. The boat is released by lowering the boat and trailer into the water to a sufficient depth to allow the boat to float and then releasing the latch. The procedure is reversed when the boat is retrieved: thus, the boat is
15 manoeuvred onto the trailer and then secured by the latch.

The operation is not always easily achieved and, recovery of the boat from the water onto the trailer, in particular, can be difficult to achieve. The present invention offers an alternative to existing boat trailer latches. The boat trailer latch of the invention is
20 particularly suited to new skid bed/roller bed trailer design, which allows the boat to be driven up on to the trailer to its resting position.

SUMMARY OF THE INVENTION

Therefore according to a first aspect of the present invention there is provided a boat
25 latch for securing a boat or the like having a bow ring to a trailer including,

- a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;
- a locking pin assembly movable between a cocked and a free position;
- 30 - whereby as a boat is guided into position against the roller mount assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.

Preferably, the kicker arm is biased into a disengaged position. More preferably, the kicker arm is biased into position by a compression spring acting against a rear upper side of the kicker arm.

- 5 Preferably, the locking pin is biased into an engaged position and may be secured in the cocked position against a stop

DESCRIPTION OF DRAWINGS

- 10 The above and other objects, features, and advantages of the present invention will be apparent from the following detailed description of a preferred embodiment in conjunction with the accompanying drawings. In the drawings:

Figure 1 shows a boat located on a boat trailer incorporating a latch in accordance with the present invention;

- 15 Figure 2 illustrates in cross-sectional side view the latch of the present invention in a detached position;

Figure 3 illustrates in cross-sectional side view the latch of the present invention in an attached position;

- 20 Figure 4 represents in a first perspective view the latch of the present invention removed from a trailer as viewed from below;

Figure 5 represents in a second perspective view the latch of the present invention removed from a trailer as viewed from above; and

Figure 6 shows an alternate side view of the latch showing a boat secured by a locking pin; and

- 25 Figure 7 illustrates in schematic side view an alternative embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

- 30 The following detailed description of the invention refers to the accompanying drawings. Although the description includes exemplary embodiments, other embodiments are possible, and changes may be made to the embodiments described without departing from the spirit and scope of the invention. Wherever possible, the same reference numbers will be used throughout the drawings and the following
35 description to refer to the same and like parts.

Shown in figure 1 is a boat trailer latch 10 in accordance with a first aspect of the present invention. The latch 10 is attached to, and forms a part of a conventional boat trailer 12. A boat 14 is shown in the secured position in the drawing.

5 The boat latch 10 can be seen in greater detail in figures 2-5.

The latch 10 includes a mounting roller 16 located in a roller-mount assembly 18. As can be seen from the drawings the mounting roller 16 is held generally horizontally in use and is adapted to contact the bow of the boat 14 during retrieval. The mounting
10 roller 16 is freely rotatable about a horizontal axis. The roller mount assembly 18 serves to hold the roller 16 in position and consists of a pair of side arms 22 attached to the roller at ends thereof through an axis 24 of the roller 16, each of the side arms 22 projecting from a base member 26 to thereby complete the roller-mount assembly 18. The roller 16 is of a type conventionally used in boat trailers and is manufactured
15 of nylon or other suitable material.

Extending generally downwardly from the base member 26 is a kicker arm 28. The kicker arm 28 is seen to advantage in figures 2 and 3. The kicker arm 28 consists of a flat plate having a generally central transverse pivot point 30. The pivot 30 is, in turn,
20 secured in within and against the walls of a channel member 32. The channel member 32 is approximately L shaped having a longer limb 34 and a shorter limb 36. The longer limb 34 is attached, through a mounting plate 37, to an upright 38 extending from the boat trailer 12. The shorter 36 limb of the channel member 32 is open-ended to allow the kicker arm 28 to extend upwardly through the open end to
25 the base member 26.

It can be seen from the drawings that the kicker arm 28 occupies most of the length of the shorter limb 36. As has been noted the kicker arm 28 is secured to the channel 32 by a pivot point 30. The kicker arm 28 is generally freely rotatable about the pivot 30
30 within the confines of the channel member 32. Nylon bushes and washers and a split pin are used to secure this arrangement and facilitate the free movement of the kicker arm 28.

The kicker arm 28 is, however subject to influences beyond the mere shape of the
35 channel 32.

An uppermost part of the kicker arm 28 has a rearmost projecting tang 40. The tang 40 is received in a cylindrical housing 42 positioned on an inner wall of the located within the shorter limb 36 of the channel member 32. The housing 42 also serves to hold a kicker arm compression spring 44. The outer edge of the kicker arm 28 is
 5 profiled and cut so as to allow a close fit between the kicker arm 28 and the housing 42. The kicker arm compression spring 44 acts on the upper end of the kicker arm 28 to bias the kicker arm into a resting position.

Thus, in the orientation shown in the drawings the kicker arm 28 is biased by the
 10 compression spring 44 so that it maintains an upright position, and more specifically, the kicker arm 28 is biased in a clockwise direction. However, the kicker arm is attached at its upper end the roller 16. Force acting on the roller 16 is therefore able to counteract the effect of the compression spring 44 as indicated in figure 2.

15 At a lowermost end of the kicker arm 28 there is a lower tang 46 that is forwardly projecting. An aperture 49 is cut into the channel member 32 to allow the tang 46 to extend therethrough. Counter clockwise rotation of the kicker arm 28 about the pivot point 30 allows the tang 46 to contact a locking pin 48. As will be described the movement of the locking pin 48 activates the locking mechanism.

20

The locking pin mechanism is positioned forwardly of the kicker arm 28 and is, in use, closer to the boat 14. A pair of parallel, outermost forwardly extending flanges 50 is attached one to each side of the shorter limb of the channel member 32. The flanges 50 can be seen most clearly in figure 4.

25

The flanges 50 terminate in outwardly directed guide wings 52. The guide wings 52 serve to avoid damage to the boat as the boat 14 is guided onto the trailer 12. The guide wings 52 are covered in a nylon material. The guide wings 52, in use, rest below the roller 16 and act in concert with the roller 16 to position the boat during

30 retrieval.

The locking pin 48 is a U shaped member that passes through, and is secured in, the flanges 50 and then turns through 180° to pass below the flanges 50. The locking pin 48 also passes through a barrel 54 positioned adjacent a flange 50. Within the barrel
 35 54 is a locking pin spring and associated washer. The locking pin spring ensures that the locking pin 48 is maintained in position with the lower arm passing below the guide

wings 52 and flanges 50. By pulling on the locking pin 48 it is possible to act against the locking pin spring and to withdraw the locking pin 48.

The locking pin 48 can be withdrawn against the action of the locking pin spring to a
 5 cocked position. The locking pin 48 is maintained in this position by the lower arm of the U-shape bearing against a locking pin stop plate 56 attached to an outer surface of the channel member 32.

As the boat 14 is driven forward on to the trailer 12 the guide wings 52 locate the D-
 10 shackle or U-bolt on the bow of the boat to its final resting position. The bow of the boat 14 then encounters the roller 16, which then rotates on its horizontal axis 24. At the same time the movement of the boat against the roller 16 exerts a pressure thereon that results in a rotation of the roller 16 backwards, that is in a counter clockwise direction as viewed from figure 2 around the pivot point 30 and against the
 15 action of the compression spring 44. This of course rotates the whole of the kicker arm 28 and the lowermost point of the kicker arm 28 and the tang 46 are also rotated counter clockwise and the tang 46 emerges through the aperture 48 to strike the lower arm of the locking pin 48. The locking pin 48 is thereby moved forwardly and released from the locking pin stop plate 56. The spring in the barrel 54 shoots the locking pint
 20 48 across the bow of the boat passing through the locking pin 48 through the D-shackle or U-bolt on the bow of the boat thereby securing the boat to the trailer.

Thus then, as the boat is driven, winched or otherwise hauled onto the trailer the operator is in a position to monitor the gradual movement of the boat and, at a point
 25 when the locating the D-shackle or U-bolt on the bow of the boat in line with the desired resting position. On the trailer, the action of the boat moving against the roller 16 activates the locking pin 48 out of the cocked position, that is, engagement with the stop plate 56 and the locking pin moves to collect the boat through the shackle.

30 To facilitate this process the end of the locking pin that passes through the shackle on the boat is tapered to allow easy entry through the shackle. Once the boat has been secured an R clip 58 can be used to lock the locking pin 48 against inadvertent release. In addition, a washer 60 is fixed to the rear side of the locking pin 48 to thereby prevent excess travel of the pin.

The latch 10 of the invention may incorporate additional features including a safety catch 62 that loops over the lower arm of the locking pin 48 and prevents inadvertent firing of the pin.

5 Shown in figure 7 is an alternative form of the present invention. The boat latch 100 shown in figure 7 is in many respects similar to the latch 10 shown in figures 1-6 and like numerals have been used to indicate like parts.

In the latch 100, the roller mount assembly 18 is attached to the channel member 32
10 through adjustable side flanges 61. The side flanges 61 are attached to a winch plate 64 and are pivotally movable about a pivot pin 63 located at the end of the winch plate 64. The winch plate 64 is welded to the mounting plate 37 and is further supported in position by means of support 65. The degree of movement of the adjustable side flanges 61 is constrained by arcuate slots that receive pins 66.

15

The relative angle at which the roller mount assembly 18 is presented to a boat hull is variable thereby allowing the latch 100 to be used with a variety of boat hull angles.

Further advantages and improvements may be made to the present invention without
20 deviating from its scope. In particular the angle and position at which the latch assembly is mounted and the dimensions of the channel member are able to vary to accommodate differing boat geometries. Thus, although the invention has been shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope
25 and spirit of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

In any claims that follow and in the summary of the invention, except where the
30 context requires otherwise due to express language or necessary implication, the word "comprising" is used in the sense of "including", i.e. the features specified may be associated with further features in various embodiments of the invention.

The claims defining the invention are as follows:

1. A boat latch for securing a boat or the like having a bow ring to a trailer including,

5 a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;

a locking pin assembly movable between a cocked and a free position;

whereby as a boat is guided into position against the roller mount

10 assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.

- 15 2. A boat latch according to claim 1, wherein the roller mount assembly serves to hold the roller in position and consists of a pair of side arms attached to the roller at ends thereof through an axis of the roller, each of the side arms projecting from a base member, and wherein the kicker arm extends downwardly from the base member.

- 20 3. A boat latch according to ^{claim 1} ~~one of the preceding claims~~ in which the kicker arm consists of a flat plate having a generally central transverse pivot point about which the kicker arm is freely rotatable.

- 25 4. A boat latch according to claim 1, wherein the kicker arm is biased into a disengaged position.

5. A boat latch according to claim 1, wherein the kicker arm is biased into a disengaged position by a compression spring acting against a rear upper side of the kicker arm and wherein force acting on the roller is

- 30 6. A boat latch according to ~~any one of the preceding~~ claims 1, additionally including a pair of parallel, outermost forwardly extending flanges terminating in outwardly directed guide wings serving to avoid damage
- 35 to a boat as the boat is guided onto the latch.

7. A boat latch according to ~~any one of the preceding claims~~, wherein, the locking pin is biased into an engaged position and may be secured in the cocked position against a stop

5

8. A boat latch according to claims 8, wherein the locking pin is released from a cocked position as a result of the rotation of the roller and kicker arm.

10

9. A boat latch according to ~~any one of the preceding claims~~, additionally including a securing clip to lock the locking pin against inadvertent release.

15

10. A boat latch according to ~~any one of the preceding claims~~ in which the roller mount assembly is pivotally movable with the latch to accommodate variability in boat hull angles.

Dated: 10/02/2005

20 Pauline Hardy and Garth Nesbitt

By their Patent Attorneys

Lesicar Perrin

Abstract

A boat latch for securing a boat or the like having a bow ring to a trailer including,

5 a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;

a locking pin assembly movable between a cocked and a free position;

whereby as a boat is guided into position against the roller mount

10 assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.

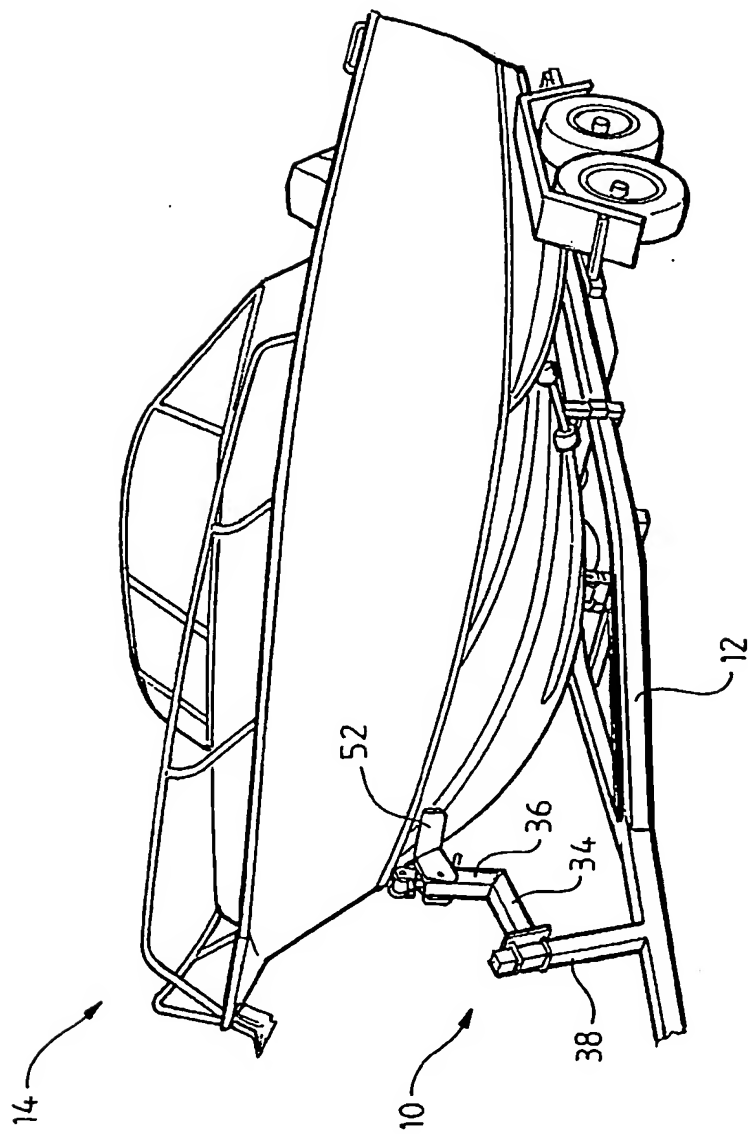


Fig 1

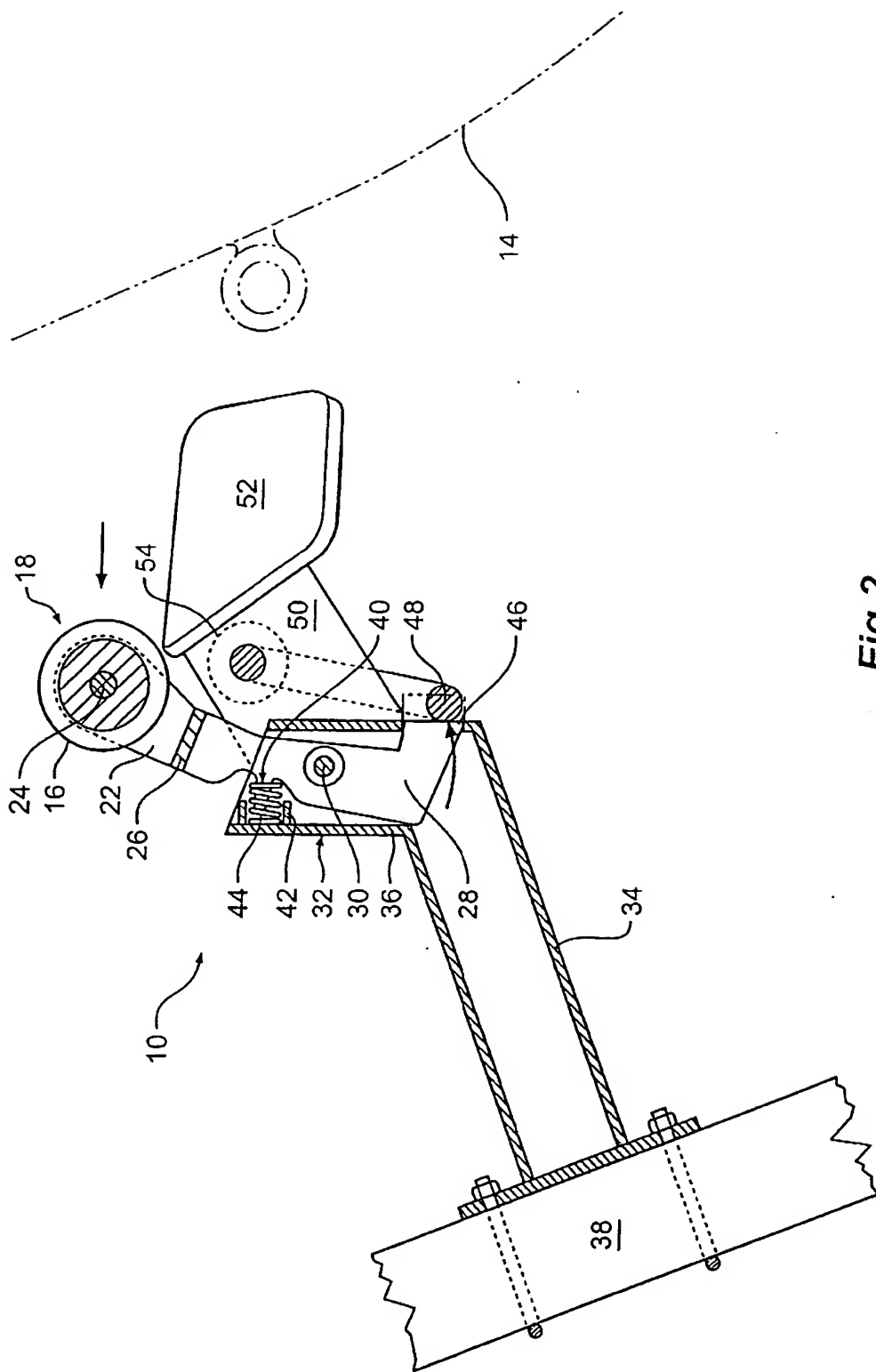


Fig 2

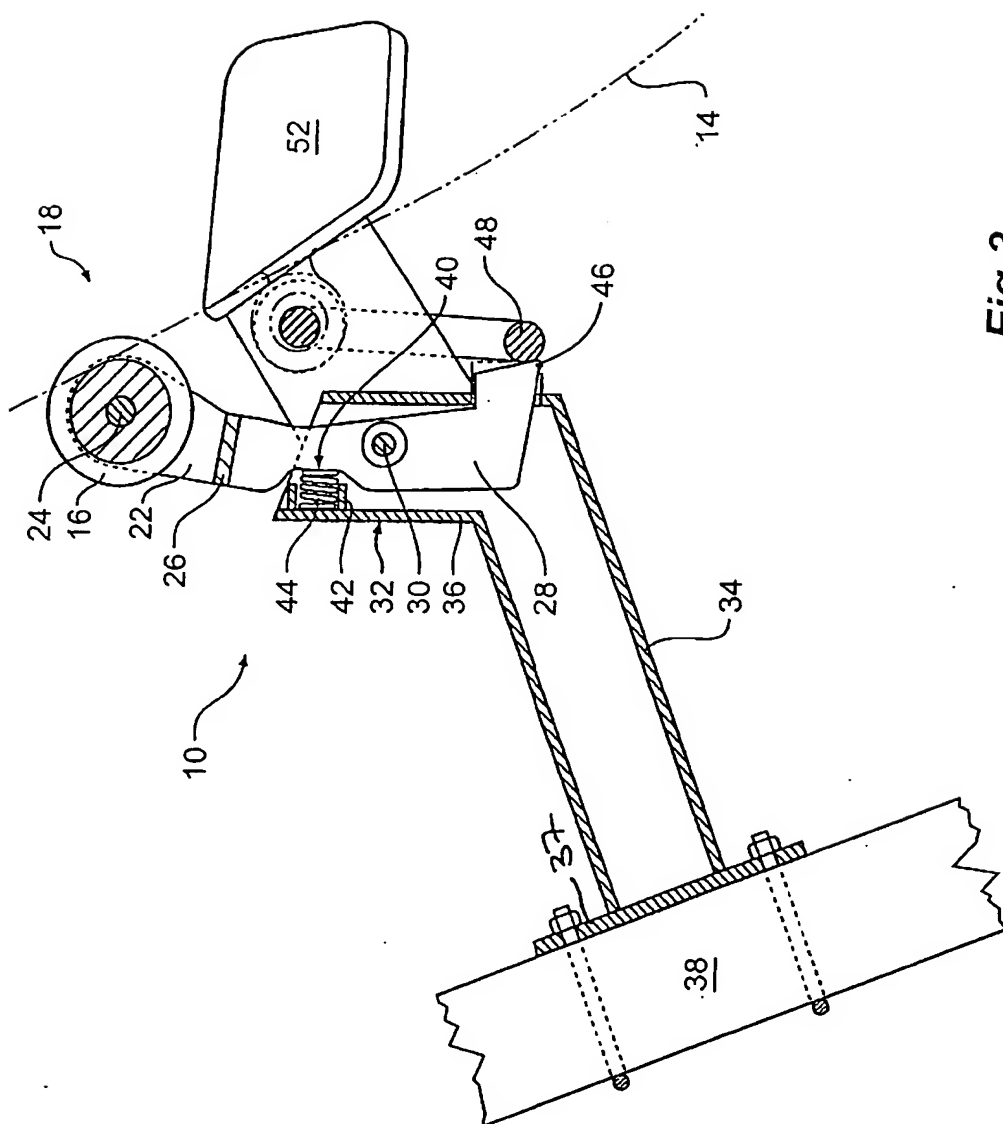


Fig 3

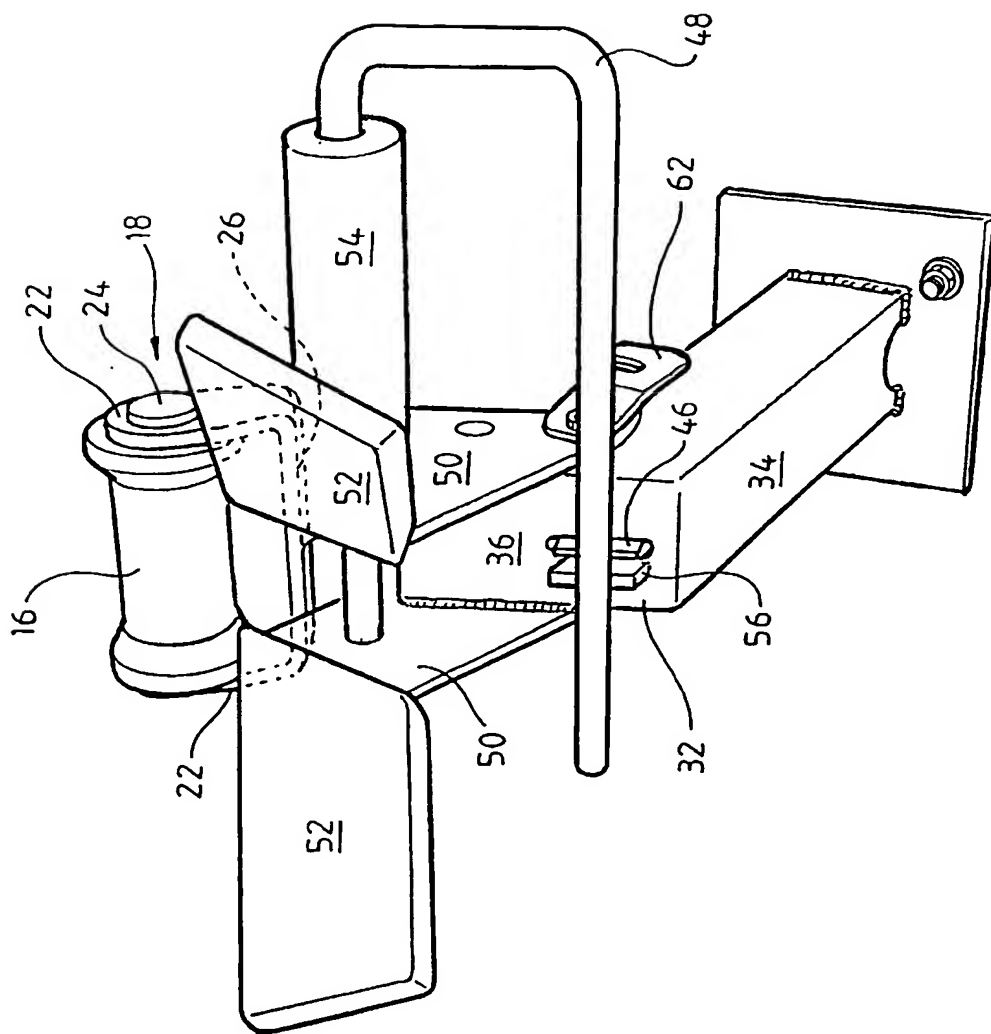


Fig 4

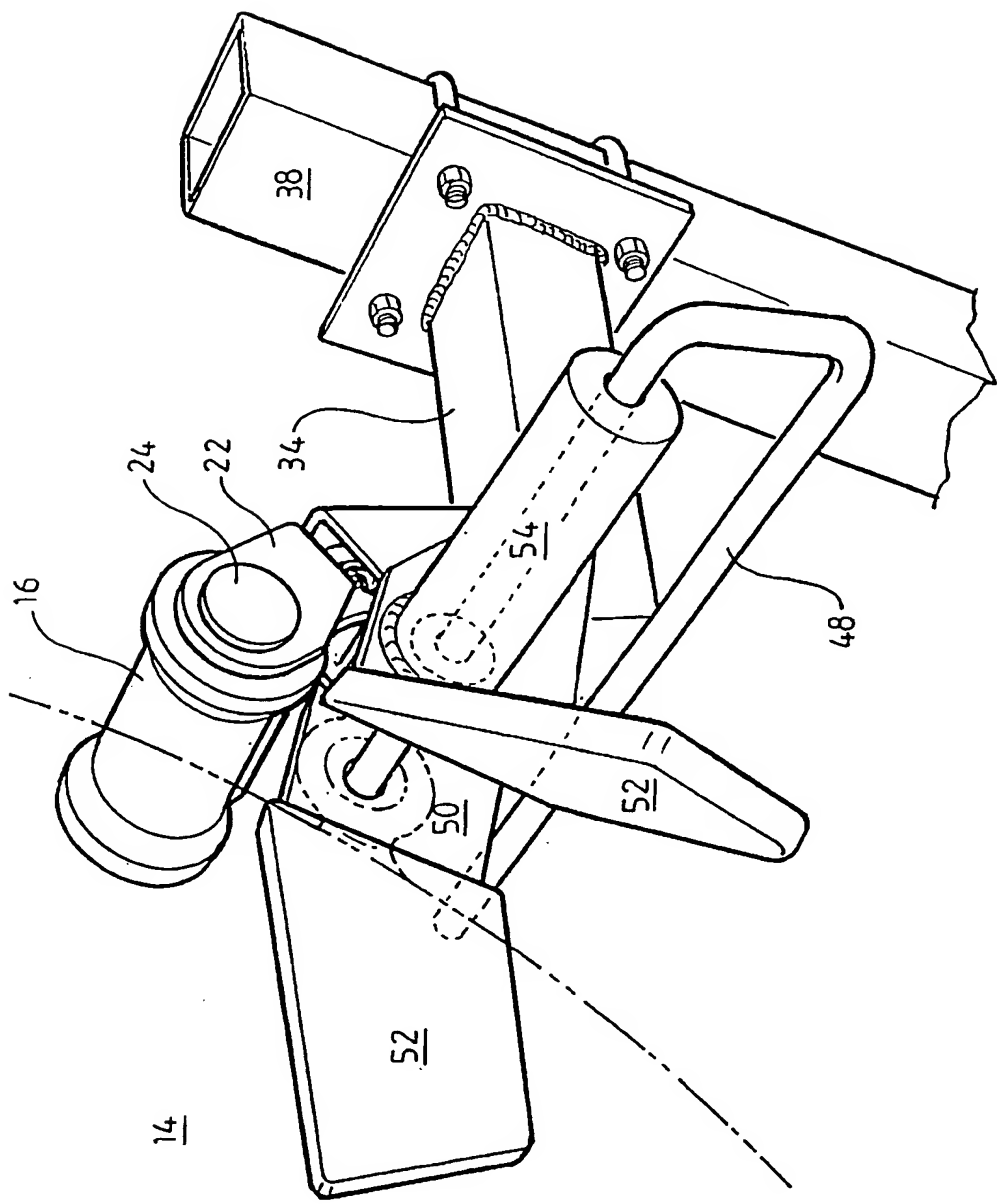


Fig 5

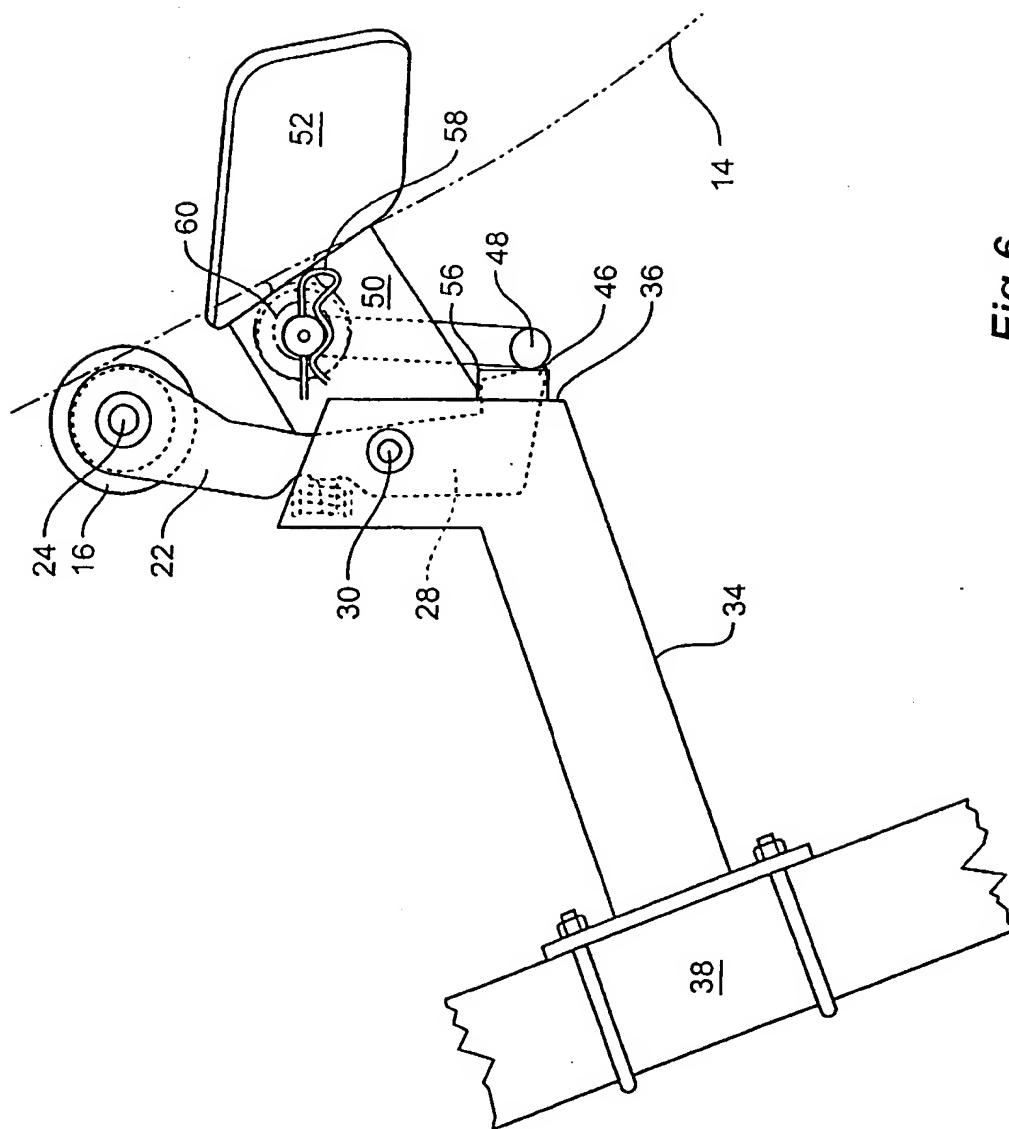
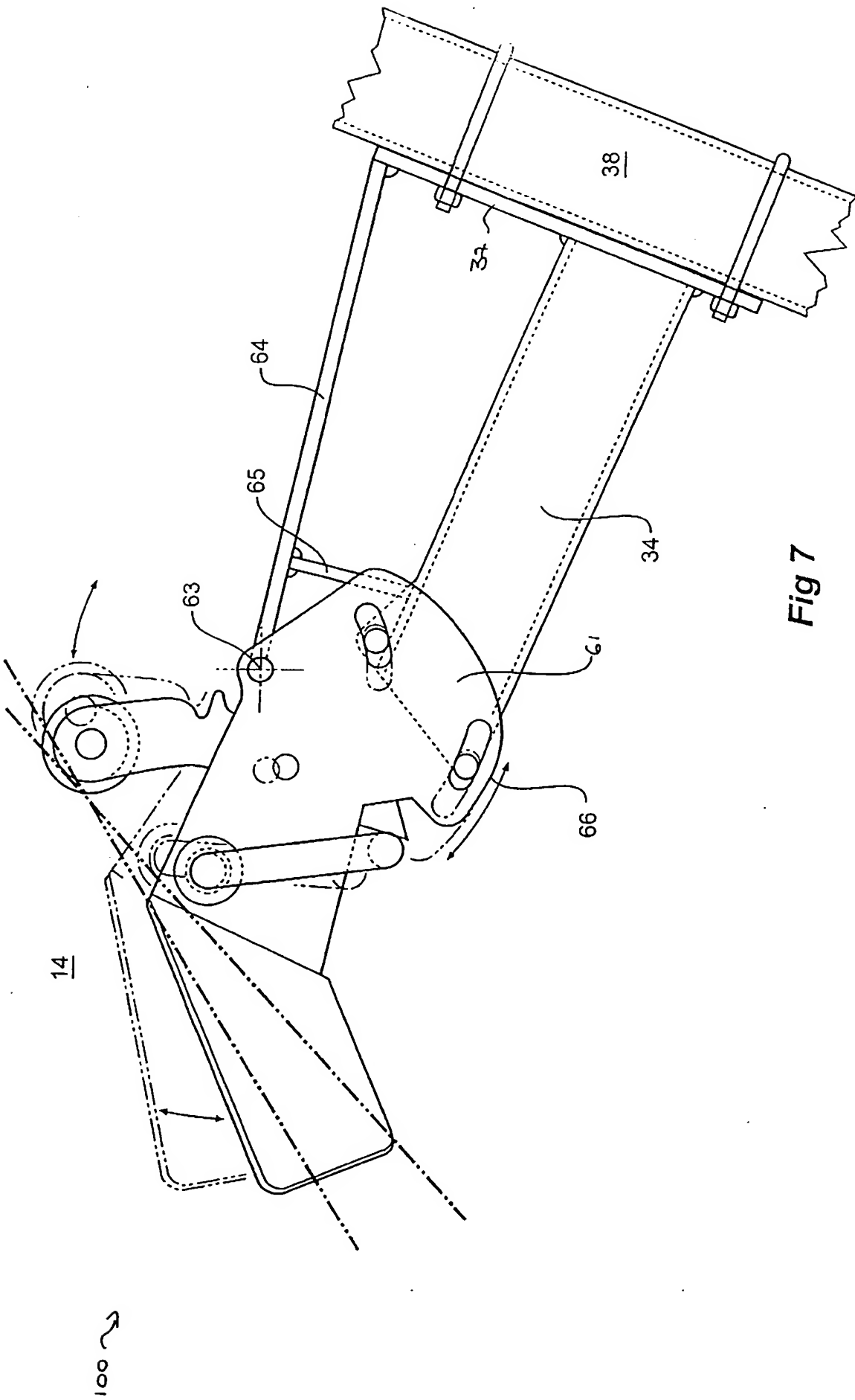


Fig 6



John E. Vandigriff

Attorney At Law
906 Stone Circle Ln
Lewisville, Texas 75056

Email
johnvan@grandecom.net

Tel: (972) 899-1942

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Garth Nesbitt and Brendy Hardy

Filed:

Examiner:

Serial No.:

Art Unit:

Title: Boat Latch

File: HAR101

I certify that this correspondence is being sent to the
Patent Office by Facsimile on the date below.

4-11-07

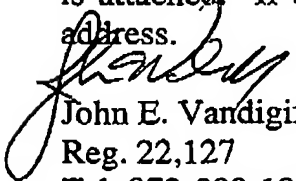
Date: John E. Vandigriff, Reg. No. 22127

FAX: 571-270-9852

Attention: Rita White

RE: Telephone conversation of April 11, 2007.

In the conversation, Ms White stated that the application, my reference HAR101, was filed September 19, 2006. Upon review of this file, this is the file I have resubmitted 2 additional times trying to find the status. The application was originally inadvertently filed as a PCT application. It should have been filed as a convention application claiming priority of Australian application AU 200049006602. The application was received by the U.S. Patent Office in December 21, 2005 as shown by the Track and Confirm receipt attached hereto. It was received by S Dyar, at 9:29 AM on December 21, 2005. A copy of the application, as filed, and resubmitted and a copy of the check paying the filing fee is attached. If additional information is need, please contact me at the above address.


John E. Vandigriff
Reg. 22,127
Tel: 972-899-1942

Pages including this cover: 27

| | | |
|----------|---------------|---------|
| Check #: | Date Cleared: | Amount: |
| 255 | 12/30/2005 | 500 |

JOHN E VANDIGRIFF
PO BOX 1481
LEWISVILLE, TX 75067

0255
Cash Management Account

DATE 12-12-03

25-80400

FOR THE
COUNTRY OF

Commission for Pelt

\$ 500.00

Five hundred and no/100

DOLLARS

AS
Merrill Lynch

BANK ONE

Best Match

1044888884 0111315283634 0156 400000500000

[illegible]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Pauline Brenda Hardy and Garth Nesbitt

Filed: December 14, 2005

Examiner:

Serial No.:

Art Unit:

Title: Boat Latch

File: HAR101

I certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below.

Date:

9/13/06  John E. Vandigriff, Reg. No. 22127

Hon. Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

On December 14, 2005, a patent application was mailed to the U.S. Patent Office by Express Mail. This is evidenced by the copy of the filing receipt No. HB222206699 US, a copy is enclosed. Also, tracking this mailing, the application was received by the USPTO on December 21, 2005 at 9:29 am, and was signed by S. Dyar. A copy of the Track & Confirm from the United States Postal Service is attached..

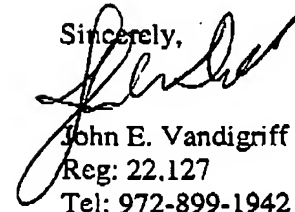
In a conversation with USPTO customer service, it was stated that there is no record of the receipt of the patent application. Based upon the above evidence, the application was received by the USPTO.

A copy of the original documents mailed to the USPTO are enclosed. Please enter this application and assign it the filing date of December 14, 2005.

A correspondence change of address is enclosed as the below attorney has changed address.

If additional information is required, please let me know.

Sincerely,



John E. Vandigriff
Reg: 22,127
Tel: 972-899-1942

USPS - Track & Confirm

<http://trkcnfrm1.smi.usps.com/PTSIInternetWeb/InterLabelInquiry.do>[Home](#) | [Help](#) | [Sign In](#)[Track & Confirm](#) [FAQs](#)

Track & Confirm

Search Results

Label/Receipt Number: HB22 2206 699U S
Status: Delivered

Your item was delivered at 9:29 am on December 21, 2005 in ALEXANDRIA, VA 22313. The item was signed for by S DYAR.

Additional information for this item is stored in files offline.

[Track & Confirm](#)[Go >](#)[Restore Offline Details >](#) [?](#)[Return to USPS.com Home >](#)

Notification Options

Proof of Delivery

Verify who signed for your item by email, fax, or mail. [Go >](#)



POSTAL INSPECTORS
Preserving the Trust

[site map](#)

[contact us](#) [government services](#) [jobs](#) [National & Premier Accounts](#)
Copyright © 1999-2004 USPS. All Rights Reserved. Terms of Use Privacy Policy

PTO/SB/122 (01-08)

Approved for use through 12/31/2008. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**CHANGE OF
CORRESPONDENCE ADDRESS
Application**Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

| | |
|------------------------|----------------------|
| Application Number | No Assigned |
| Filing Date | December 14, 2005 |
| First Named Inventor | Pauline Brenda Hardy |
| Art Unit | |
| Examiner Name | |
| Attorney Docket Number | HAR101 |

Please change the Correspondence Address for the above-identified patent application to:

☐ The address associated with
Customer Number:

OR

☒ Firm or
Individual Name John E. Vandigriff

Address

906 Stone Circle Ln

City Lewisville

State Texas

Zip 75056

Country U.S.A.

Telephone 972-899-1942

Email johnvan@grandecom.net

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:

- ☐ Applicant/Inventor
- ☐ Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).
- ☒ Attorney or agent of record. Registration Number 22,127
- ☐ Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____

Signature

Typed or Printed
Name

John E. Vandigriff

Date September 13, 2006

Telephone 972-899-1942

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

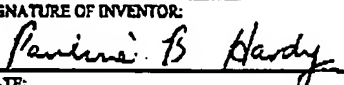
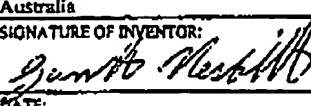
| |
|-----------------------|
| ATTORNEY'S DOCKET NO. |
| BOAT, TM |

APPLICATION FOR UNITED STATES PATENT

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I declare that my residence, post office address and citizenship are as stated below next to my name; that I verily believe that I am the original, first and sole inventor if only one name is listed below, or an original, first and joint inventor if plural inventors are named below, of the subject matter which is claimed and for which a patent is sought on the invention entitled as set forth below, which is described in the attached specification; that I have reviewed and understand the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration; that no application for patent or inventor's certificate on this invention has been filed by me or my legal representatives or assigns in any country foreign to the United States of America; and that I acknowledge my duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, section 1.56(a);

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| | | |
|--|---|--|
| TITLE OF INVENTION: <div style="text-align: center; margin-top: 10px;">Boat Latch</div> | | |
| POWER OF ATTORNEY: I HEREBY APPOINT THE FOLLOWING ATTORNEYS TO PROSECUTE THIS APPLICATION AND TRANSACT ALL BUSINESS IN THE PATENT AND TRADEMARK OFFICE CONNECTED THEREWITH John E. Vandigriff, Reg. No. 22,127 | | |
| SEND CORRESPONDENCE TO: John E. Vandigriff Hammerle Finley Law Firm 1660 S. Stemmons, Suite 300 Lewisville, Texas 75067 | | DIRECT TELEPHONE CALLS TO: (972) 436-9300 FAX (972) 436-9000 |
| NAME OF INVENTOR: (1) Pauline Brenda Hardy | NAME OF INVENTOR: (2) Garth nesbitt | NAME OF INVENTOR: (3) |
| RESIDENCE & POST OFFICE ADDRESS: 2 Sewart Road Allendale East South Australia 5291 Australia | RESIDENCE & POST OFFICE ADDRESS: 2 Sewart Road Allendale East South Australia 5291 Australia | RESIDENCE & POST OFFICE ADDRESS: |
| COUNTRY OF CITIZENSHIP: Australia | COUNTRY OF CITIZENSHIP: Australia | COUNTRY OF CITIZENSHIP: |
| SIGNATURE OF INVENTOR:  | SIGNATURE OF INVENTOR:  | SIGNATURE OF INVENTOR: |
| DATE: 17-11-05 | DATE: 17-11-05 | DATE: |

PTO-1390 (Rev. 02-2005)

Approved for use through 3/31/2007. OMB 0551-0021
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| | | |
|---|---|--|
| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER |
| | | U.S. APPLICATION NO. (if known, see 37 CFR 1.5) |
| INTERNATIONAL APPLICATION NO. AU 2004/900602 | INTERNATIONAL FILING DATE February 10, 2004 | PRIORITY DATE CLAIMED February 10, 2004 |
| TITLE OF INVENTION BOAT LATCH | | |
| APPLICANT(S) FOR DO/EO/US PAULINE HARDY AND GARTH NESBITT | | |

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

- ☒ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
- ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
- ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
- ☒ The US has been elected (Article 31).
- ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - ☒ is attached hereto (required only if not communicated by the International Bureau).
 - ☐ has been communicated by the International Bureau.
 - ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
- ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - ☐ is attached hereto.
 - ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
- ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - ☐ are attached hereto (required only if not communicated by the International Bureau).
 - ☐ have been communicated by the International Bureau.
 - ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - ☐ have not been made and will not be made.
- ☒ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
- ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 35 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

- ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
- ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
- ☐ A preliminary amendment.
- ☐ An Application Data Sheet under 37 CFR 1.76.
- ☐ A substitute specification.
- ☒ A power of attorney and/or change of address letter.
- ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821-1.825.
- ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
- ☐ A second copy of the English language translation of the International application under 35 U.S.C. 154(d)(4).
- ☐ Other items or information:


This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Page 1 of 2

PTO-1380 (Rev. 02-2005)

Approved for use through 3/31/2007, OMB 0651-0021
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| | | | | | |
|--|--------------|--|--|---------------------------|-----------|
| U.S. APPLICATION NO. (if known, see 37 CFR 1.5) | | INTERNATIONAL APPLICATION NO. | | ATTORNEY'S DOCKET NUMBER | |
| The following fees have been submitted | | | | CALCULATIONS PTO USE ONLY | |
| 21. <input checked="" type="checkbox"/> Basic national fee..... \$300 | | | | \$ 300.00 | |
| 22. <input checked="" type="checkbox"/> Examination fee If international preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)..... \$100 All other situations..... \$200 | | | | \$ 200.00 | |
| 23. <input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared and provided to the Office..... \$400 All other situations..... \$500 | | | | \$ 500.00 | |
| TOTAL OF 21, 22 and 23 = | | | | \$ 1,000.00 | |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250 | \$ | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | - 20 = | | x \$ 50 | \$ | |
| Independent claims | - 3 = | | x \$200 | \$ | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$360 | \$ | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ | |
| <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/3. | | | | | |
| SUBTOTAL = | | | | \$ 500.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). | | | | + | |
| TOTAL NATIONAL FEE = | | | | \$ 630.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property | | | | + | |
| TOTAL FEES ENCLOSED = | | | | \$ | |
| | | | | Amount to be refunded: | \$ |
| | | | | Amount to be charged: | \$ 630.00 |
| <p>a. <input checked="" type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> | | | | | |
| NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status. | | | | | |
| SEND ALL CORRESPONDENCE TO: | | | | | |
| John E. Vandigriff HAMMERLE FINLEY LAW FIRM 1660 S. Stemmons, Suite 300 Lewisville, Texas 75067 | | |  SIGNATURE John E. Vandigriff NAME 22,127 REGISTRATION NUMBER | | |

FORM PTO-1380 (REV. 02-2005)

Page 2 of 2

12122AU

ORIGINAL

Complete Specification

Applicant: Garth Nesbitt and Pauline Brenda Hardy

Title: Boat Latch

Address for Service: LESICAR PERRIN, 49 Wright Street, Adelaide, South
Australia 5000, Australia

The following statement is a full description of this invention, including the
best method of performing it known to me/us:

Boat Latch

FIELD OF THE INVENTION

5 The present invention relates to a boat latch. The latch of the present invention is of assistance in the retrieval of boats onto a trailer.

BACKGROUND OF THE INVENTION

Boats carried on trailers are used for both recreational and commercial purposes in
10 significant numbers. Typically boats would be launched from and retrieved from an inclined boat-launching ramp or similar. The boat is secured to the trailer by a latch attaching to the bow of the boat. The boat is released by lowering the boat and trailer into the water to a sufficient depth to allow the boat to float and then releasing the latch. The procedure is reversed when the boat is retrieved: thus, the boat is
15 manoeuvred onto the trailer and then secured by the latch.

The operation is not always easily achieved and, recovery of the boat from the water onto the trailer, in particular, can be difficult to achieve. The present invention offers an alternative to existing boat trailer latches. The boat trailer latch of the invention is
20 particularly suited to new skid bed/roller bed trailer design, which allows the boat to be driven up on to the trailer to its resting position.

SUMMARY OF THE INVENTION

Therefore according to a first aspect of the present invention there is provided a boat
25 latch for securing a boat or the like having a bow ring to a trailer including,

- a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;
- a locking pin assembly movable between a cocked and a free position;
- 30 - whereby as a boat is guided into position against the roller mount assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.

Preferably, the kicker arm is biased into a disengaged position. More preferably, the kicker arm is biased into position by a compression spring acting against a rear upper side of the kicker arm.

- 5 Preferably, the locking pin is biased into an engaged position and may be secured in the cocked position against a stop

DESCRIPTION OF DRAWINGS

- 10 The above and other objects, features, and advantages of the present invention will be apparent from the following detailed description of a preferred embodiment in conjunction with the accompanying drawings. In the drawings:

Figure 1 shows a boat located on a boat trailer incorporating a latch in accordance with the present invention;

- 15 Figure 2 illustrates in cross-sectional side view the latch of the present invention in a detached position;

Figure 3 illustrates in cross-sectional side view the latch of the present invention in an attached position;

- 20 Figure 4 represents in a first perspective view the latch of the present invention removed from a trailer as viewed from below;

Figure 5 represents in a second perspective view the latch of the present invention removed from a trailer as viewed from above; and

Figure 6 shows an alternate side view of the latch showing a boat secured by a locking pin; and

- 25 Figure 7 illustrates in schematic side view an alternative embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

- 30 The following detailed description of the invention refers to the accompanying drawings. Although the description includes exemplary embodiments, other embodiments are possible, and changes may be made to the embodiments described without departing from the spirit and scope of the invention. Wherever possible, the same reference numbers will be used throughout the drawings and the following
35 description to refer to the same and like parts.

Shown in figure 1 is a boat trailer latch 10 in accordance with a first aspect of the present invention. The latch 10 is attached to, and forms a part of a conventional boat trailer 12. A boat 14 is shown in the secured position in the drawing.

5 The boat latch 10 can be seen in greater detail in figures 2-5.

The latch 10 includes a mounting roller 16 located in a roller-mount assembly 18. As can be seen from the drawings the mounting roller 16 is held generally horizontally in use and is adapted to contact the bow of the boat 14 during retrieval. The mounting
10 roller 16 is freely rotatable about a horizontal axis. The roller mount assembly 18 serves to hold the roller 16 in position and consists of a pair of side arms 22 attached to the roller at ends thereof through an axis 24 of the roller 16, each of the side arms 22 projecting from a base member 26 to thereby complete the roller-mount assembly 18. The roller 16 is of a type conventionally used in boat trailers and is manufactured
15 of nylon or other suitable material.

Extending generally downwardly from the base member 26 is a kicker arm 28. The kicker arm 28 is seen to advantage in figures 2 and 3. The kicker arm 28 consists of a flat plate having a generally central transverse pivot point 30. The pivot 30 is, in turn,
20 secured in within and against the walls of a channel member 32. The channel member 32 is approximately L shaped having a longer limb 34 and a shorter limb 36. The longer limb 34 is attached, through a mounting plate 37, to an upright 38 extending from the boat trailer 12. The shorter 36 limb of the channel member 32 is open-ended to allow the kicker arm 28 to extend upwardly through the open end to
25 the base member 26.

It can be seen from the drawings that the kicker arm 28 occupies most of the length of the shorter limb 36. As has been noted the kicker arm 28 is secured to the channel 32 by a pivot point 30. The kicker arm 28 is generally freely rotatable about the pivot 30
30 within the confines of the channel member 32. Nylon bushes and washers and a split pin are used to secure this arrangement and facilitate the free movement of the kicker arm 28.

The kicker arm 28 is, however subject to influences beyond the mere shape of the
35 channel 32.

An uppermost part of the kicker arm 28 has a rearmost projecting tang 40. The tang 40 is received in a cylindrical housing 42 positioned on an inner wall of the located within the shorter limb 36 of the channel member 32. The housing 42 also serves to hold a kicker arm compression spring 44. The outer edge of the kicker arm 28 is 5 profiled and cut so as to allow a close fit between the kicker arm 28 and the housing 42. The kicker arm compression spring 44 acts on the upper end of the kicker arm 28 to bias the kicker arm into a resting position.

Thus, in the orientation shown in the drawings the kicker arm 28 is biased by the 10 compression spring 44 so that it maintains an upright position, and more specifically, the kicker arm 28 is biased in a clockwise direction. However, the kicker arm is attached at its upper end the roller 16. Force acting on the roller 16 is therefore able to counteract the effect of the compression spring 44 as indicated in figure 2.

15 At a lowermost end of the kicker arm 28 there is a lower tang 46 that is forwardly projecting. An aperture 49 is cut into the channel member 32 to allow the tang 46 to extend therethrough. Counter clockwise rotation of the kicker arm 28 about the pivot point 30 allows the tang 46 to contact a locking pin 48. As will be described the movement of the locking pin 48 activates the locking mechanism.

20

The locking pin mechanism is positioned forwardly of the kicker arm 28 and is, in use, closer to the boat 14. A pair of parallel, outermost forwardly extending flanges 50 is attached one to each side of the shorter limb of the channel member 32. The flanges 50 can be seen most clearly in figure 4.

25

The flanges 50 terminate in outwardly directed guide wings 52. The guide wings 52 serve to avoid damage to the boat as the boat 14 is guided onto the trailer 12. The guide wings 52 are covered in a nylon material. The guide wings 52, in use, rest below the roller 16 and act in concert with the roller 16 to position the boat during 30 retrieval.

The locking pin 48 is a U shaped member that passes through, and is secured in, the flanges 50 and then turns through 180° to pass below the flanges 50. The locking pin 48 also passes through a barrel 54 positioned adjacent a flange 50. Within the barrel 35 54 is a locking pin spring and associated washer. The locking pin spring ensures that the locking pin 48 is maintained in position with the lower arm passing below the guide

wings 52 and flanges 50. By pulling on the locking pin 48 it is possible to act against the locking pin spring and to withdraw the locking pin 48.

The locking pin 48 can be withdrawn against the action of the locking pin spring to a cocked position. The locking pin 48 is maintained in this position by the lower arm of the U-shape bearing against a locking pin stop plate 56 attached to an outer surface of the channel member 32.

As the boat 14 is driven forward on to the trailer 12 the guide wings 52 locate the D-shackle or U-bolt on the bow of the boat to its final resting position. The bow of the boat 14 then encounters the roller 16, which then rotates on its horizontal axis 24. At the same time the movement of the boat against the roller 16 exerts a pressure thereon that results in a rotation of the roller 16 backwards, that is in a counter clockwise direction as viewed from figure 2 around the pivot point 30 and against the action of the compression spring 44. This of course rotates the whole of the kicker arm 28 and the lowermost point of the kicker arm 28 and the tang 46 are also rotated counter clockwise and the tang 46 emerges through the aperture 48 to strike the lower arm of the locking pin 48. The locking pin 48 is thereby moved forwardly and released from the locking pin stop plate 56. The spring in the barrel 54 shoots the locking pin 48 across the bow of the boat passing through the locking pin 48 through the D-shackle or U-bolt on the bow of the boat thereby securing the boat to the trailer.

Thus then, as the boat is driven, winched or otherwise hauled onto the trailer the operator is in a position to monitor the gradual movement of the boat and, at a point when the locating the D-shackle or U-bolt on the bow of the boat in line with the desired resting position. On the trailer, the action of the boat moving against the roller 16 activates the locking pin 48 out of the cocked position, that is, engagement with the stop plate 56 and the locking pin moves to collect the boat through the shackle.

To facilitate this process the end of the locking pin that passes through the shackle on the boat is tapered to allow easy entry through the shackle. Once the boat has been secured an R clip 58 can be used to lock the locking pin 48 against inadvertent release. In addition, a washer 60 is fixed to the rear side of the locking pin 48 to thereby prevent excess travel of the pin.

The latch 10 of the invention may incorporate additional features including a safety catch 62 that loops over the lower arm of the locking pin 48 and prevents inadvertent firing of the pin.

5 Shown in figure 7 is an alternative form of the present invention. The boat latch 100 shown in figure 7 is in many respects similar to the latch 10 shown in figures 1-6 and like numerals have been used to indicate like parts.

In the latch 100, the roller mount assembly 18 is attached to the channel member 32 10 through adjustable side flanges 61. The side flanges 61 are attached to a winch plate 64 and are pivotally movable about a pivot pin 63 located at the end of the winch plate 64. The winch plate 64 is welded to the mounting plate 37 and is further supported in position by means of support 65. The degree of movement of the adjustable side flanges 61 is constrained by arcuate slots that receive pins 66.

15

The relative angle at which the roller mount assembly 18 is presented to a boat hull is variable thereby allowing the latch 100 to be used with a variety of boat hull angles.

Further advantages and improvements may be made to the present invention without 20 deviating from its scope. In particular the angle and position at which the latch assembly is mounted and the dimensions of the channel member are able to vary to accommodate differing boat geometries. Thus, although the invention has been shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope 25 and spirit of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

In any claims that follow and in the summary of the invention, except where the 30 context requires otherwise due to express language or necessary implication, the word "comprising" is used in the sense of "including", i.e. the features specified may be associated with further features in various embodiments of the invention.

The claims defining the invention are as follows:

1. A boat latch for securing a boat or the like having a bow ring to a trailer including,
5 a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;
a locking pin assembly movable between a cocked and a free position;
whereby as a boat is guided into position against the roller mount
10 assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.
- 15 2. A boat latch according to claim 1, wherein the roller mount assembly serves to hold the roller in position and consists of a pair of side arms attached to the roller at ends thereof through an axis of the roller, each of the side arms projecting from a base member, and wherein the kicker arm extends downwardly from the base member.
- 20 3. A boat latch according to ^{claim 1} ~~one of the preceding claims~~ in which the kicker arm consists of a flat plate having a generally central transverse pivot point about which the kicker arm is freely rotatable.
- 25 4. A boat latch according to claim 1, wherein the kicker arm is biased into a disengaged position.
5. A boat latch according to claim 1, wherein the kicker arm is biased into a disengaged position by a compression spring acting against a rear
30 upper side of the kicker arm and wherein force acting on the roller is able to counteract the effect of the compression spring.
- 35 6. A boat latch according to ~~any one of the preceding claims~~ 1, additionally including a pair of parallel, outermost forwardly extending flanges terminating in outwardly directed guide wings serving to avoid damage to a boat as the boat is guided onto the latch.

9

7. A boat latch according to ~~any one of the preceding claims~~, wherein, the locking pin is biased into an engaged position and may be secured in the cocked position against a stop

5

8. A boat latch according to claims 8, wherein the locking pin is released from a cocked position as a result of the rotation of the roller and kicker arm.

10

9. A boat latch according to ~~any one of the preceding claims~~, additionally including a securing clip to lock the locking pin against inadvertent release.

15

10. A boat latch according to ~~any one of the preceding claims~~ in which the roller mount assembly is pivotally movable with the latch to accommodate variability in boat hull angles.

Dated: 10/02/2005

20 Pauline Hardy and Garth Nesbitt

By their Patent Attorneys

Lesicar Perrin

Abstract

A boat latch for securing a boat or the like having a bow ring to a trailer including,

5 a roller mount assembly having a roller adapted to guide the bow of a boat into position said roller being attached to an upper end of a kicker arm, said kicker arm being pivotally mounted in a housing;
a locking pin assembly movable between a cocked and a free position;
whereby as a boat is guided into position against the roller mount
10 assembly a rotation of said kicker arm may be induced by pressure exerted against the roller by a boat to thereby activate the locking pin at a position wherein the locking pin engages the bow ring to thereby secure the boat to the trailer.

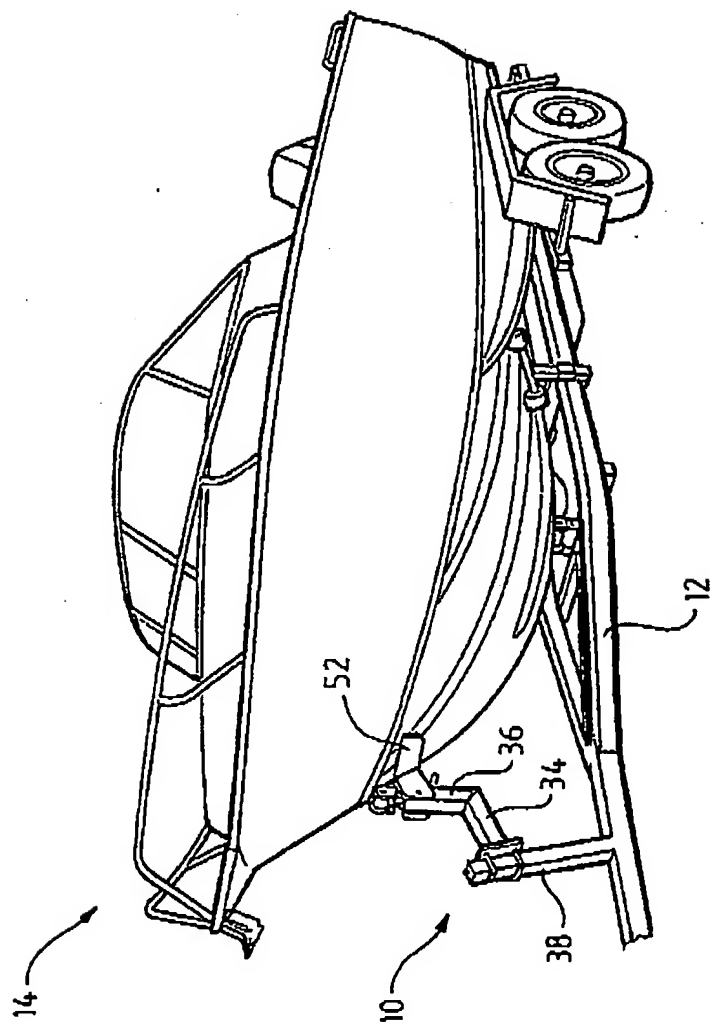
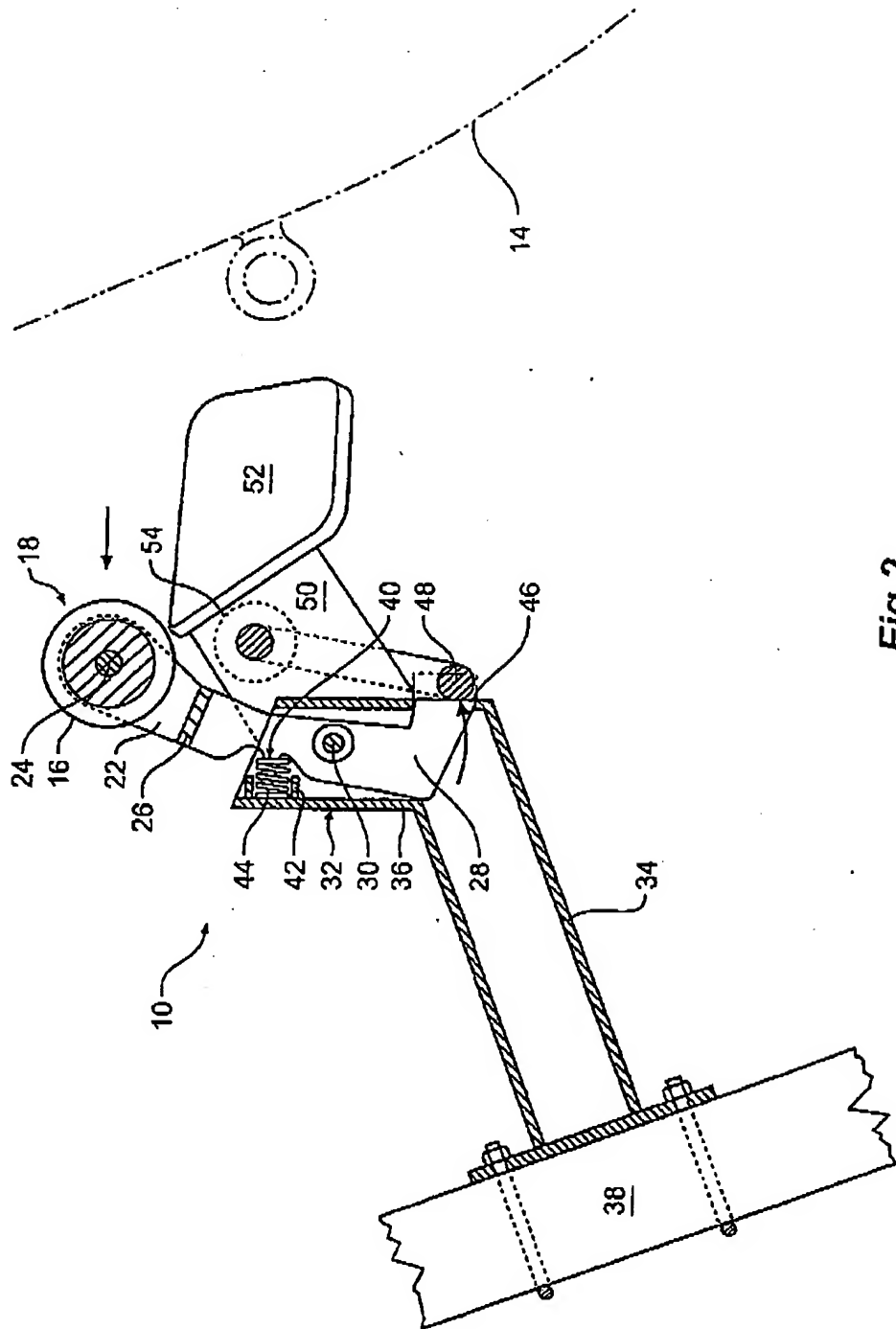
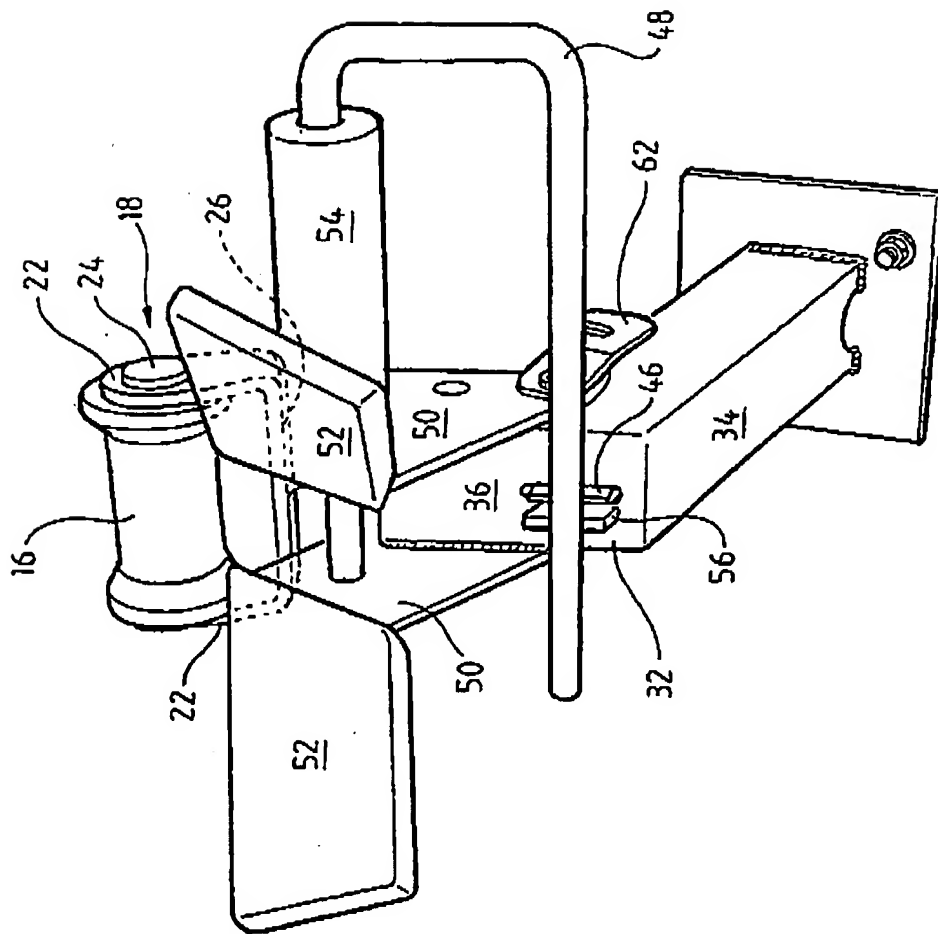
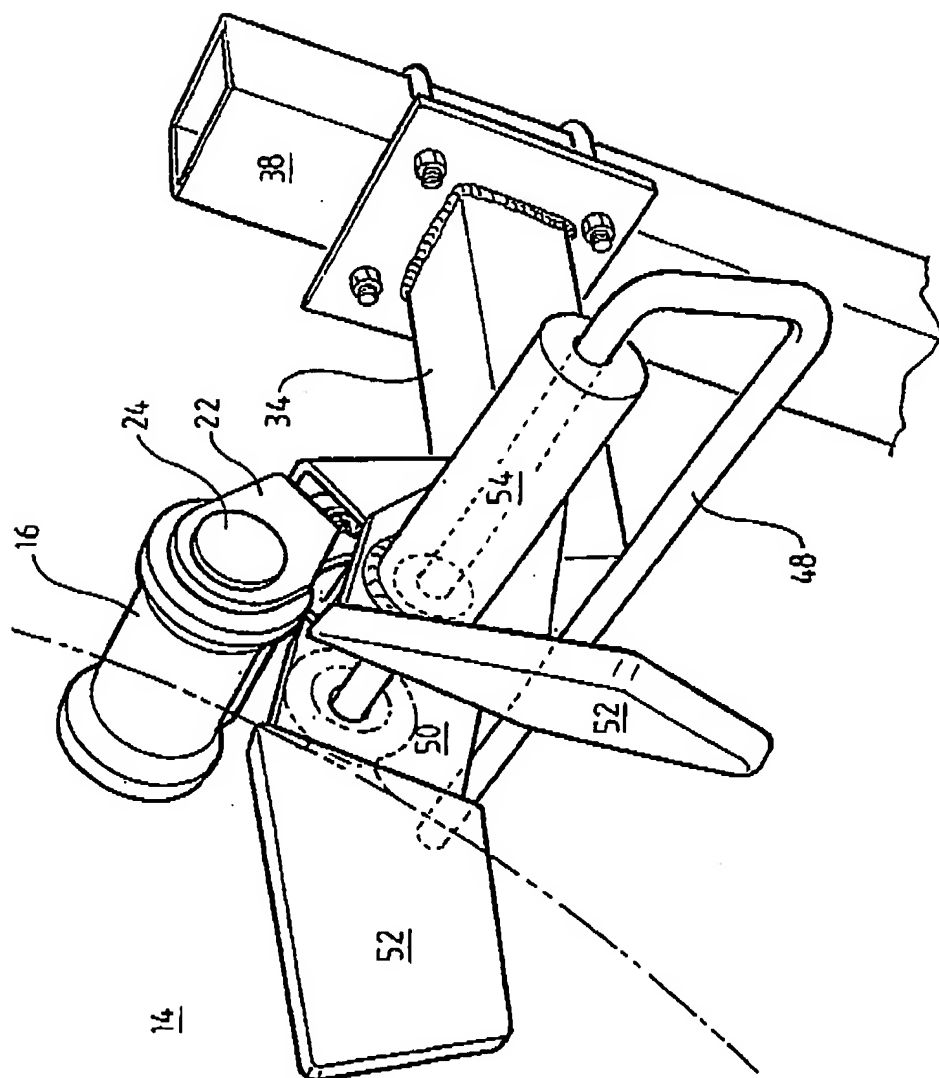


Fig 1







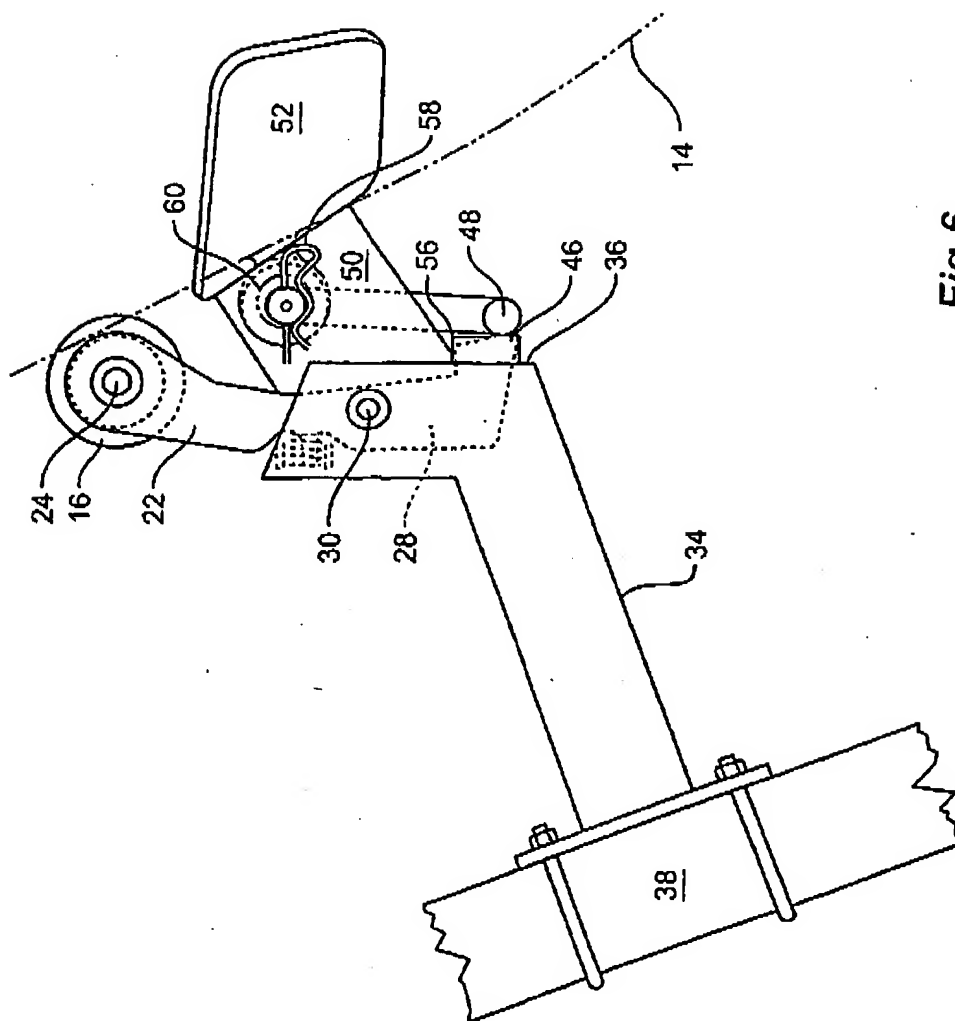
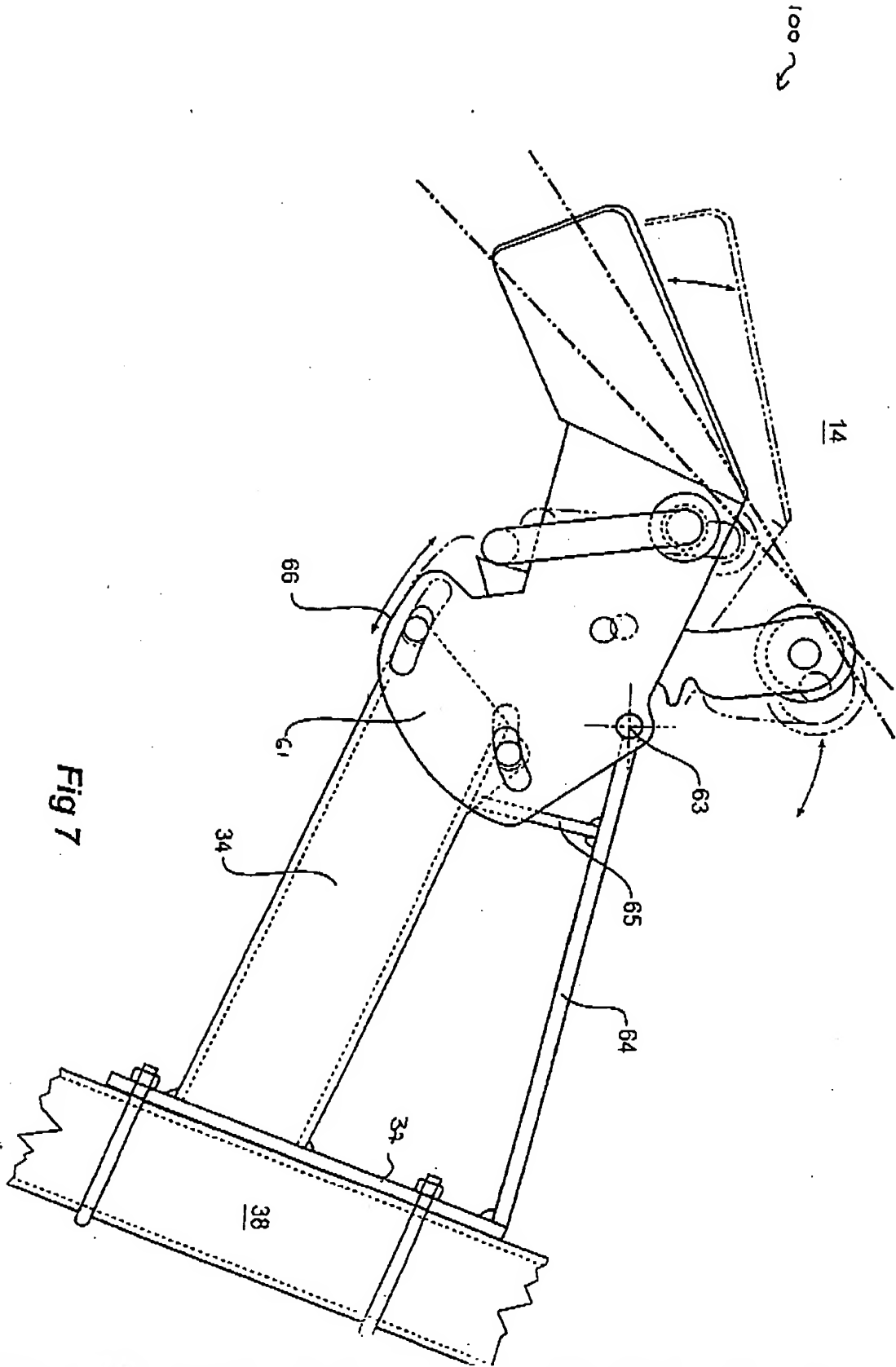


Fig 6



18222206679 US

▲ Fold and Detach Stub Here ▲

Customer:

Please tear off this stub and keep it for reference when depositing prepaid Express Mail Next Day Service shipments in Express Mail collection boxes or when giving prepaid Express Mail Next Day Service shipments to Postal Service personnel. Affix the remaining label set to your shipment. **DO NOT REMOVE THE CUSTOMER COPY.** It will be completed and mailed back to you. For reference, write on this stub the date that the shipment was mailed and initial the stub (it deposited in an Express Mail collection box). Deadlines for deposit for next day delivery differ according to the destination. To ensure next day delivery consult your local Express Mail Directory.

PRIVACY ACT: Your name and address may be used by the Postal Service to send you updated information about Express Mail service. You may request removal of your name and address from our mailing list by writing Assistant Postmaster General, Marketing Department, USPS, Washington, DC 20260-6300. Authority: 39 U.S.C. 401, 403, 404.

Additional information on Express Mail Service can be obtained at any post office or by writing USPS Headquarters, Washington, DC 20260-6334.

Date Mailed:

Initials:

Service Guarantee:

If this shipment is mailed at designated USPS Express Mail service facilities on or before the specified deposit time for overnight delivery to the addressee, it will be delivered to the addressee or agent before noon or 3:00 p.m. the next day. Upon application by the mailer, USPS will refund the postage for this shipment if it is not delivered before noon or 3:00 p.m. of the next day, unless delivery was attempted, but could not be made, or because this shipment was delayed by strike or work stoppage. Consult your local Express Mail directory for morning and afternoon delivery areas. See The Domestic Mail Manual, Chapter 2, for details. Signature of the addressee, addressee's agent, or delivery employee is required upon delivery. Express Mail International Service mailings are not covered by this service guarantee. See the International Mail Manual for details.

Insurance Coverage:

(See section 205 of the Domestic Mail Manual for exclusions of coverage, such as negotiable items and consequential loss.)

(1) **Merchandise Insurance:** Merchandise is insured against loss, damage or rilling up to a maximum of \$500. Incidental will not be paid for spoilage of perishable items.

(2) **Document Reconstruction Insurance:** Non-negotiable documents are insured against loss, damage or rilling up to \$50,000 per piece subject to a limit of \$500,000 per occurrence.

(3) The maximum indemnity payable for negotiable items, cash, currency, or bullion is \$15.

Claims:

- Claims for delay, loss, damage or rilling must be made within 90 days. Claim forms may be obtained and filed at any post office.
- The Customer Receipt must be presented when a claim is filed.

EXPRESS MAIL NEXT DAY SERVICE

| | | |
|--|--|---------------------------|
| <p>The "Received" stamp of the Patent and Trademark Office Imprinted herein acknowledges the filing of:</p> | | |
| <p><input checked="" type="checkbox"/> NEW APPLICATION (Previously filed, <input type="checkbox"/> DECLARATION <input type="checkbox"/> ASSIGNMENT <input checked="" type="checkbox"/> FORAMAL DIVIS <input type="checkbox"/> INFORMAL DIVIS <input type="checkbox"/> CONTINUATION APPN <input type="checkbox"/> DIVISION APPN <input checked="" type="checkbox"/> SMALL ENTITY AFFID.</p> | <p><input checked="" type="checkbox"/> Request to File Last Application <input type="checkbox"/> EOT _____ MTHS <input type="checkbox"/> NOTICE OF APPEAL <input type="checkbox"/> APPEAL <input type="checkbox"/> ISSUE FEE <input type="checkbox"/> Appeal Brief & Exhibits <input type="checkbox"/> Acknowled Patent order <input type="checkbox"/> Check \$ 00 Cmkto</p> | |
| <p>NAME OF INVENTOR(S): Pauline Brenda Hardy and Gurih Keshni</p> | | RECEIPT DATE & SERIAL No. |
| <p>TITLE OF INVENTION Boat Launch</p> | | |
| FILE No. HAR101 | DEPOSIT ACCT. No. | |
| MLD: September 13, 2006 DUE | EXPRESS MAIL () RECEIPT No. | |